

REMARKS/ARGUMENTS

Claims 3 and 4 are pending in this application. By this Amendment, Applicant AMENDS claim 3.

Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Truchsess (U.S. 5,734,726) in view of Koike et al. (U.S. 5,635,903).

Applicant respectfully traverses the rejection of claims 3 and 4.

Claim 3 has been amended to recite:

A sound synthesizer for generating a sound that simulates the sound of an internal combustion engine having a plurality of cylinders, the sound synthesizer comprising:

a memory arranged to store engine sound data corresponding to at least one operational state of the engine based on a firing interval of the cylinders; and

an output generator arranged to concurrently output first and second sound signals to a common speaker based on the engine sound data stored in the memory; wherein

the output generator controls the first and second sound signals such that the first sound signal has at least one of a first pitch that is variable for each firing interval and a first volume that is variable for each firing interval, and the second sound signal has at least one of a second pitch that is variable for each firing interval independently of the first pitch of the first sound signal and a second volume that is variable for each firing interval independently of the first volume of the first sound signal.
(emphasis added)

The Examiner alleged that Truchsess teaches all of the features recited in claim 3 with the exception of an output generator arranged to concurrently output first and second sound signals. The Examiner alleged that Koike et al. teaches a sound synthesizer 33 arranged to combine sound data. The Examiner further alleged that it would have been obvious to use the synthesizer of Koike et al. with the system of Truchsess to “output the signals concurrently for the purpose of providing a smooth realistic engine sound” (see, for example, the last sentence on page 3 of the outstanding Office Action).

Applicant has amended claim 3 to recite the feature of “an output generator arranged to concurrently output first and second sound signals to a common speaker

based on the engine sound data stored in the memory.” Support for this feature is found, for example, in paragraph [0033] of Applicant’s specification and Fig. 1 of Applicant’s drawings.

In contrast, Koike et al. teaches an output generator 33 arranged to concurrently output first and second sound signals 4a, 4b to separate speakers 7, 9 (see, for example, Figs. 1 and 7 of Koike et al.). The Examiner referred to column 5, lines 21-32; column 6, lines 45-60; and column 7, lines 1-10 of Koike et al. for the alleged teachings of “combined” sound data. However, Koike et al. does not teach or suggest “combining” the sound data so as to be concurrently output to a common speaker for the following reasons.

First, in the embodiments described in column 5, lines 21-38; column 6, lines 45-60; and column 7, lines 1-10 of Koike et al., it is clear that the starting and running sound signals 4a, 4b are not combined into a single sound signal, but are separate sound signals that are output alternatively, or sequentially. Column 5, lines 33-38 of Koike et al. teaches:

The simulated sound source device 4 sends starting sound signals **or** running sound signals 4a, 4b to the sound level switcher device 5 based on the starting sound selection information 11a from the starting sound selector 11 **or** the running sound selection information 12a from the running sound selector 12. (emphasis added)

That is, the simulated sound source 4 of Koike et al. outputs either a starting sound 4a or a running sound 4b, but not both at the same time. Thus, it is clear that these embodiments of Koike et al. do not concurrently output separate sound signals 4a, 4b.

Second, in column 6, lines 20-27, Koike et al. teaches that different sound signals 4a, 4b may be concurrently output to different speakers on the outside and the inside of an electric vehicle. If the same sound signal is output to both speakers, Koike et al. teaches that “only one of the sound signals 4a, 4b may be generated.” Consequently, it is clear from this teaching of Koike et al. that if different sound signals 4a, 4b of Koike et al. are concurrently output, then the sound signals 4a, 4b are output

to different speakers. See also column 7, lines 33-43 and column 8, lines 3-8 of Koike et al. which further teach that the sound signals 4a, 4b of Koike et al. are output to the different speakers 7, 9.

Thus, the combination of Truchsess and Koike et al. clearly fails to teach or suggest the feature of "an output generator arranged to concurrently output first and second sound signals to a common speaker based on the engine sound data stored in the memory," as recited in Applicant's claim 3.

Accordingly, Applicant respectfully submits that Truchsess and Koike et al., alone or in combination, fails to teach or suggest the unique combination and arrangement of elements recited in Applicant's claim 3.

In view of the foregoing amendments and remarks, Applicant respectfully submits that claim 3 is allowable. Claim 4 depends upon claim 3, and is therefore allowable for at least the reasons that claim 3 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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